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09/934,091	08/20/2001	Luca Blessent	990207C1	8001
23696	7590	07/11/2006	EXAMINER	
QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			SCHEIBEL, ROBERT C	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/934,091

Applicant(s)

BLESSENT ET AL.

Examiner

Robert C. Scheibel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-9 is/are allowed.
- 6) ☒ Claim(s) 1,5 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/20/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                        |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____   |

### **DETAILED ACTION**

- Examiner acknowledges receipt of Applicant's amendment filed 10/5/2005.
- Claims 1-5 have been amended.
- New claims 6-10 have been added.
- Claims 1-10 are currently pending.

### ***Response to Arguments***

1. Applicant's arguments, see paragraph 2 on page 7, filed 10/5/2005, with respect to the objections to claims 3 and 5 have been fully considered and are persuasive. The objections to claims 3 and 5 have has been withdrawn.
2. Applicant's arguments, see paragraph 3 on page 7, filed 10/5/2005, with respect to the rejection of claims 1-3 under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. The rejection of claims 1-3 under 35 U.S.C. 112, second paragraph, has been withdrawn.

### ***Drawings***

3. Figures **1 and 2** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheets should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

4. The disclosure is objected to because of the following informalities:

- On lines 23-24, the phrase “co-pending U.S. Patent Application Serial No. 08/886,604, entitled” should be updated to “U.S. Patent 6,396,804, entitled”.

Appropriate correction is required.

### *Claim Objections*

5. Claims **1 and 6** have been objected to because of the following informalities: the limitation starting with “improving the channel performance...” of claim 1 (and the associated “means for improving the channel performance...” of claim 6) is ambiguous. The phrase “improving the channel performance” is not necessary and reduces the clarity of the step.

This objection can be overcome by rewording this step to read “calculating a channel phase estimate by using only the reconstructed continuous sequence of pilot symbols” in claim 1 (and making analogous changes to claim 6.)

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims **5 and 10** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
8. Claims **5 and 10** recite the limitation "the frequency error estimate signal" in lines 9 and 11, respectively. There is insufficient antecedent basis for this limitation in the claim.

### ***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim because the examined application claim is either anticipated by, or would have been obvious over, the reference claim. See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claim **1** is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 22 of U.S. Patent No. 6,304,563. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the present application omits a step found in claim 22 of U.S. Patent No. 6,304,563. Specifically, claim 22 of U.S. Patent No. 6,304,563 discloses reconstructing a non-punctured pilot channel of

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predetermined sign from information symbols of uncertain sign punctured into a sequence of pilot channel symbols of predetermined sign to produce a continuous sequence of pilot symbols in the analogous reconstructing step of parent claim 21. Similarly, claim 22 of U.S. Patent No. 6,304,563 discloses calculating a channel phase estimate using only the reconstructed continuous sequence of pilot symbols in the generating step of claim 22. However, claim 1 of the present application omits the determining step of parent claim 21 of U.S. Patent No. 6,304,563. It has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. *In re Karlson*, 136 USPQ 184 (CCPS). Also note *Ex parte Rainu*, 168 USPQ 375 (Bs. App. 1969); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

***Allowable Subject Matter***

11. Claims **5 and 10** would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
12. Claims **2-4 and 6-9** are allowed.
13. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).
14. The following is an examiner's statement of reasons for allowance: the prior art of record does not disclose or teach the limitation of reconstructing a non-punctured pilot channel of predetermined sign from information symbols of uncertain sign punctured into a sequence of pilot channel symbols of predetermined sign to produce a continuous sequence of pilot symbols

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of claims 2-5 (or the analogous means for limitations of claims 6-10) in combination with all the other limitations of these claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- U.S. Patent 6,285,663 to Esmailzadeh discloses a method of increasing performance in communications by embedding one signal in another signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169. The examiner can normally be reached on Monday and Thursday from 6:30-5:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*RCS* 7-6-06

Robert C. Scheibel  
Examiner  
Art Unit 2616

*Seema S. Rao*  
SEEMA S. RAO 7/8/06

SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600